



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0186; Directorate Identifier 2013-NE-11-AD]

RIN 2120-AA64

Airworthiness Directives; General Electric Company Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain General Electric Company (GE) GE90-76B, -85B, -90B, -94B, -110B1, and -115B turbofan engines. This proposed AD was prompted by multiple reports of failure of certain stage 1 high-pressure turbine (HPT) stator shrouds due to accelerated corrosion and oxidation. This proposed AD would require initial and repetitive on-wing borescope inspections (BSIs) for corrosion and oxidation, of the affected stage 1 HPT stator shrouds, and removal from service before further flight, if the parts fail the inspection. We are proposing this AD to prevent failure of the stage 1 HPT stator shrouds, resulting in in-flight shutdown of one or more engines, loss of thrust control, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact General Electric Company, One Neumann Way, MD Y-75, Cincinnati, OH; phone: 513- 552-2913; email: geae.aoc@ge.com; and Web site: www.GE.com. You may view the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Jason Yang, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7747; fax: 781-238-7199; email: jason.yang@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0186; Directorate Identifier 2013-NE-11-AD” at the

beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We received one report of an aborted takeoff, and multiple reports of stage 1 HPT stator shroud distress resulting in engine removals on airplanes with GE90 turbofan engines. Investigation revealed that the stage 1 HPT stator shrouds failed due to accelerated corrosion and oxidation. GE is still investigating the cause of the accelerated corrosion and oxidation. This condition, if not corrected, could result in failure of the stage 1 HPT stator shrouds, resulting in in-flight shutdown of one or more engines, loss of thrust control, and damage to the airplane.

Relevant Service Information

We reviewed GE Service Bulletin (SB) No. GE90 S/B 72-1076, dated November 19, 2012, and SB No. GE90-100 S/B 72-0528, dated November 15, 2012. The SBs describe procedures for performing BSIs of the stage 1 HPT stator shrouds for accelerated corrosion and oxidation.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require initial and repetitive on-wing BSIs of stage 1 HPT stator shrouds, part number (P/N) 1847M52P14, and P/N 1847M52P16, for corrosion and oxidation, and removal from service before further flight if the parts fail the inspection.

Differences Between the Proposed AD and the Service Information

The SBs require completing and sending to GE the Inspection Findings Report Form after each inspection. This proposed AD does not.

Costs of Compliance

We estimate that this proposed AD would affect about 100 GE90 engines installed on airplanes of U.S. registry. We also estimate that it would take about four hours per engine to perform one inspection. The average labor rate is \$85 per hour. Based on these figures, we estimate the cost of the proposed AD on U.S. operators for one inspection to be \$34,000.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

General Electric Company: Docket No. FAA-2013-0186; Directorate Identifier 2013-NE-11-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to General Electric Company (GE):

(1) GE90-76B, -85B, -90B, and -94B turbofan engines with stage 1 high-pressure turbine (HPT) stator shrouds, part number (P/N) 1847M52P14, installed.

(2) GE90-110B1 and -115B turbofan engines with stage 1 HPT stator shrouds, P/N 1847M52P16, installed.

(d) Unsafe Condition

This AD was prompted by multiple reports of failure of certain stage 1 HPT stator shrouds due to accelerated corrosion and oxidation. We are issuing this AD to prevent failure of the stage 1 HPT stator shrouds, resulting in in-flight shutdown of one or more engines, loss of thrust control, and damage to the airplane.

(e) Compliance

Comply with this AD within the compliance times specified, unless already done.

(f) Borescope Inspections of the Stage 1 HPT Stator Shrouds

(1) Perform an initial on-wing borescope inspection (BSI) of the stage 1 HPT stator shrouds for corrosion and oxidation before accumulating 2,100 cycles since new (CSN), or within 100 cycles in service (CIS) after the effective date of this AD, whichever occurs later.

(2) Thereafter, repeat the BSI of the stage 1 HPT stator shrouds every 250 cycles since last inspection (CSLI) or fewer, depending on the results of the inspection.

(3) For engines listed in paragraph (c)(1) of this AD:

(i) Perform the inspections using Section 3.A of the Accomplishment Instructions of GE Service Bulletin (SB) No. GE90 S/B 72-1076, dated November 19, 2012; and

(ii) Use Section 3.B of the Accomplishment Instructions of SB No. GE90 S/B 72-1076, dated November 19, 2012, to determine the next inspection interval.

(4) For engines listed in paragraph (c)(2) of this AD:

(i) Perform the inspections using Section 3.A of the Accomplishment Instructions of GE SB No. GE90-100 S/B 72-0528, dated November 15, 2012; and

(ii) Use Section 3.B of the Accomplishment Instructions of SB No. GE90-100 S/B 72-0528, dated November 15, 2012, to determine the next inspection interval.

(5) Remove from service before further flight, any stage 1 HPT stator shrouds found with any hole further than 0.35-inch from the shroud leading edge and hole size more than 0.25-inch diameter, or more than 0.049 square inch area.

(6) The inspection findings reporting specified in Section 3.A of the Accomplishment Instructions of GE SB No. GE90 S/B 72-1076, dated November 19, 2012, and in Section 3.A of the Accomplishment Instructions of GE SB No. GE90-100 S/B 72-0528, dated November 15, 2012, are not required by this AD.

(g) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures in 14 CFR 39.19 to make your request.

(h) Related Information

(1) For more information about this AD, contact Jason Yang, Aerospace Engineer, Engine Certification Office, FAA, 12 New England Executive Park,

Burlington, MA 01803; phone: 781-238-7747; fax: 781-238-7199; email:
jason.yang@faa.gov.

(2) For service information identified in this AD, contact General Electric Company, One Neumann Way, MD Y-75, Cincinnati, OH; phone: 513- 552-2913; email: geae.aoc@ge.com; and Web site: www.GE.com. You may view the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on March 26, 2013.

Thomas A. Boudreau,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

[FR Doc. 2013-07546 Filed 04/01/2013 at 8:45 am; Publication Date: 04/02/2013]